

Appl. No.: 10/802,275

Amdt. dated August 22, 2005

Reply to Office action of February 18, 2005 and Notice of Non-Responsive
Amendment dated August 9, 2005

IN THE CLAIMS:

Please amend the claims as follows:

Claims 1-25 (Cancelled)

26. (Currently amended) A fuel injector comprising:

a valve member which is engageable with a valve seating to control fuel delivery from the injector;

a hydraulic amplifier arrangement coupled to the valve member via a piston member and a control chamber;

an actuator arrangement coupled to the piston member, wherein the hydraulic amplifier arrangement and the actuator arrangement are adapted to apply an initial retracting force to the piston member to move the valve member away from the valve seating and to apply a second retracting force to the piston member thereafter; and

the hydraulic amplifier including a mechanical coupler for coupling the valve member and the piston member together only ~~[[being mechanically coupled by the hydraulic amplifier arrangement]]~~ during application of the initial retracting force so that they are ~~[[and]]~~ decoupled from one another during application of the second retracting force.

27. (Original) A fuel injector, as set forth in claim 26, wherein the second retracting force is less than the initial retracting force.

28. (Previously presented) A method for operating a fuel injector for delivering fuel from the injector having a valve member which is engageable with a valve seating to control fuel delivery from the injector; a hydraulic amplifier arrangement

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coupled to the valve member via a piston member and a control chamber, and an actuator arrangement coupled to the piston member, the method comprising the steps of:

applying an initial retracting force to the piston member to move the valve member away from the valve seating; ~~[[and,]]~~

applying a second retracting force to the piston member after initial movement of the valve member,

mechanically coupling the valve member and the piston member ~~[[being mechanically coupled by the hydraulic amplifier arrangement]]~~ during application of the initial retracting force and ~~[[decoupled]]~~ decoupling from one another during application of the second retracting force; and

hydraulically moving the valve member during application of the second retracting force.

29. (New) A fuel injector comprising;

a valve seat,

a valve member engageable with said valve seat to control fuel flow,

a piston member for retracting said valve member out of engagement with said valve seat,

a mechanical coupler for moving said valve member and said piston member together during the initial retracting movement of said valve member out of engagement with said valve seat and for allowing said valve member to move relative to said piston member after the initial retracting movement of said valve member, and

an actuator-hydraulic amplifier combination for applying a force through said mechanical coupler during said initial retracting movement and for hydraulically

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moving said valve member relative to said piston member after said initial retracting movement.

30. (New) A fuel injector as set forth in claim 29 wherein said actuator-hydraulic amplifier combination includes an actuator for moving said piston member through said mechanical coupler and a hydraulic circuit for amplifying movement of said actuator to hydraulically move said valve member in proportion to movement of said actuator after said initial retracting movement.

31. (New) A method of operating a fuel injector comprising the steps of:

applying a mechanical movement to a valve member for moving the valve member from engagement with a valve seat,

applying hydraulic pressure to the valve member in response to initial movement of the valve member from the valve seat,

amplifying the mechanical movement hydraulically and moving the valve member relative to the mechanical movement and proportionately to the mechanical movement.